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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,807	12/12/2003	Karlheinz Bing	BING ET AL.-4	2789

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WILLIAM COLLARD
COLLARD & ROE, P.C.
1077 NORTHERN BOULEVARD
ROSLYN, NY 11576

EXAMINER

AFZALI, SARANG

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/734,807	BING ET AL.	
	Examiner	Art Unit	
	Sarang Afzali	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Application filed 12/12/2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12122003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show "cutting work method" as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Figure 2 is cited in the specification on page 8, lines 13-14 as depicting a cutting work method to separate the piston blanks 1 and 2 from each other. However, it is not clear how this is being done.

Furthermore, in specification, on page 7, lines 17-19, it is cited that "weld flash 6' that results from the welding process can exit on both sides of the end points of the welding seam, without hindrance." However, Figure 2 does not show whether this weld flash is still present or it is machined away.

The quality of the Figure 2 (photograph) is very poor and even though it may show some basic features of the piston such as the combustion cavity, however it fails to clearly show the important features that are being claimed by the applicant.

Specification

On page 2, line 21 of the specification, the phrase "insufficient join" should read -
- insufficient joint - -.

On page 8, line 11 of the specification the phrase "parting plane TR" should read
- - TE - -.

Claim Rejections - 35 USC § 112

1. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 1, line 18, the phrase "shaping the piston by a cutting work method" is unclear as to how many pistons are being made. The word "piston" may need to read - - pistons - - if applicant is claiming two pistons being made by the claimed method. Furthermore, as for "cutting work method", it is not clear how this being done. Neither the specification nor the drawings of the disclosure is showing what this cutting work method is.

Claim 2, line 3, the phrase " . . . piston blanks with one of its faces, in each instance, . . . ' is unclear as to what each instance is referring to. It seems that there is only one instance when the faces of the armoring ring is set onto the depression edge of the piston blank.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 & 6, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (as set forth on pages 2-3 of the specification, Tanizawa et al., JP 63256287 A) in view of Kato et al. (U.S. 6,604,284).

As applied to claim 1, Tanizawa et al. disclose a method for the production of a piston for an internal combustion engine having a depression armoring comprising the steps of:

setting a first piston blank (10, Figs. 1 & 2) onto a projection of an armoring ring (16, Figs. 1 & 2), in a region of depression edge of the piston blank (chamber 12, Figs. 1 & 2); connecting the armoring ring with the first piston blank in the region of the depression edge by friction-welding and shaping the piston by the work cutting method (Abstract/Constitution, lines 1-6).

Tanizawa et al. teaches the claimed invention with the exception of a second blank and cutting step.

However, Kato et al. teach a method of manufacturing a piston for a compressor wherein an armoring ring (body part 55, Fig. 3) is welded to two piston blanks (56, Figs. 3 & 4) such that the two blanks (56) are not touching each other and cutting the armoring ring (body 55, Fig. 5) between the piston blanks (56) resulting in two single-headed pistons (24, Fig. 5) in order to reduce manufacturing steps and improve productivity (col. 7, lines 8-14).

It would have been obvious to one of ordinary skill in the art at the time of invention to have provided Tanizawa et al. with a second piston blank and cutting step to produce two single pistons made from one piston assembly in order to improve the productivity of the pistons (col. 7, line 9-10).

As applied to claims 2 & 6, Tanizawa et al. teach a step wherein the armoring ring (16) with two faces (annular tapered face 16a and annular bottom face with no

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label, Fig. 1) is set onto the depression edge region (12, Figs. 1 & 2) of one of the piston blanks (10, Fig. 2) with one of its faces (16a) in each instance (the instance wherein the armoring ring 16 is set onto the blank 10, Fig. 2) and exclusively connected to the piston blank (10, Fig. 2) with the face (16a) by friction welding and also the piston head produced is shaped partially by one of the faces of the armoring ring.

As applied to claim 3, Tanizawa et al. teach a step wherein the armoring ring (16) with two faces (annular tapered face 16a and annular

Allowable Subject Matter

4. Claims 4 & 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarang Afzali whose telephone number is 571-272-8412. The examiner can normally be reached on 7:00-3:30 M-F.

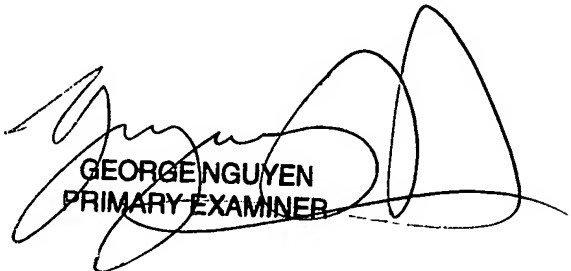
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S.A.

S.A.
03/16/2006


GEORGE NGUYEN
PRIMARY EXAMINER